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WOODCOCK STATUS REPORT

1961

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DENVER, COLORADO



UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE
Special Scientific Report--Wildlife No. 58

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United States Department of the Interior,
Stewart L. Udall, Secretary
U. S. Fish and Wildlife Service,
Clarence F. Pautzke, Commissioner

WOODCOCK STATUS REPORT - 1961

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U. S. Fish and Wildlife Service
Special Scientific Report - Wildlife No. 58

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ABSTRACT

An index of the 1961 woodcock breeding population was obtained from a Singing Ground Survey conducted in 4 eastern Canadian Provinces and 19 eastern and central States. East of the Appalachians, 150 routes run in both 1960 and 1961 were available for comparison. West of this range, 73 comparable routes were covered.

The population index increased 10 per cent in the east and 8 per cent in the west. The overall increase in the two regions combined was 9 per cent.

The mean difference in birds per route (1961 minus 1960) was calculated for States with 10 or more comparable routes (Connecticut, Maine, Michigan, New Hampshire, New York and Pennsylvania). The mean and standard error of the mean indicated that for all States, except New York, chance could have been responsible for the observed differences. In view of the many variables affecting the Singing Ground Survey, it was considered doubtful that any important change occurred in the status of the woodcock breeding population between 1960 and 1961.

Factors affecting the reliability of the survey were discussed.

INTRODUCTION

The Singing Ground Survey is conducted each spring in States and Provinces where woodcock nest. The purpose of this survey is to obtain a measure of abundance, not to determine total population. The principle involved is to make observations as standardized as possible so that results obtained from all routes can be compared. Cooperators select the survey routes. Routes also are replaced from time to time.

Routes are run by car during the evening period of woodcock singing. Male woodcock begin singing about 10 to 30 minutes after sunset, depending on weather conditions. They perform on their singing grounds for about 35 minutes. Counts are begun when singing begins and are terminated before singing ceases. The length of routes varies with population densities. Routes may be longer than 4 miles in areas of low woodcock population. Other routes located in areas of high concentration may be much shorter in length. The number of stops (listening points) also varies, depending on length of the route and on habitat. Stops are a minimum of 0.4 mile apart, are for 2 minutes duration, and are made at the same place each year. The number of birds heard calling per route is the measure of abundance for that particular route.

The Singing Ground Survey plays an important role in evaluating the status of the woodcock. Although much of the breeding range is inadequately sampled at the present time, singing ground counts provide valuable information concerning the status of the woodcock at the beginning of the nesting season.

Prior to the 1959 hunting season, production data were available from only a very small part of the woodcock's range. Furthermore, little information is available on changes in population levels on the wintering ground. Even if adequate production and wintering ground data were available, the Singing Ground Survey would continue to be necessary to provide information on population status for regulatory purposes. For example, only the Singing Ground Survey could detect a serious reduction in the woodcock population as the result of snow, ice and

freezing temperatures occurring late in the winter or in the early spring. This situation happened in March 1960, when an extensive and prolonged period of snow and freezing temperatures struck the central and eastern States after many woodcock had departed from the wintering ground. Without the Singing Ground Survey, the Bureau would not have had reasonable evidence that woodcock survived the severe weather in March 1960 in sufficient numbers to justify as liberal a hunting season in 1960 as was allowed in 1959.

1961 COVERAGE

During March, April and May of 1961, cooperators in 4 eastern Canadian Provinces and 19 eastern and central States made singing ground counts on 304 routes. Most of the routes were covered on approximately the same dates as in 1960.

The analysis of population trends between 1960 and 1961 was made from data obtained from 223 routes run in both years. Tables 3 and 4, however, include all information from both years. The 223 comparable routes represent an increase of 17 over 1959-60. The number of comparable routes in the Eastern Region (east of the Appalachians) decreased from 166 in 1959-60 to 150 in 1960-61, although 18 new routes were established. Most of the new routes in the Eastern Region were in Nova Scotia. The number of comparable routes in the Western Region increased from 40 in 1959-60 to 73 in 1960-61. Most of the increase occurred in Michigan, where the number of comparable routes more than doubled. Data from comparable routes also were available for Minnesota and Wisconsin, important woodcock-producing States from which information was lacking last year. Singing ground counts were initiated in the States of Illinois, Indiana and Iowa; 14 routes were run in those States in 1961. An additional 49 new routes were covered in other areas of the Western Region; most of them in Michigan, Minnesota and Wisconsin.

ANALYSIS

Limitations of the Survey Method

Since survey routes are not selected at random they may not be typical of all woodcock habitat. The extent to which counts reflect population changes is not known. At present, we can only assume that drastic changes in the size of the breeding population will be detected.

It should be remembered that the Singing Ground Survey attempts to measure changes in the relative size of the breeding population, not annual production, which must be measured by other methods.

Summarization of Field Data

This analysis is based on data from States and Provinces in which one or more comparable routes were run in 1960 and 1961. Several routes covered in 1961 were not included in the analysis, either because they were run during the unreliable period from 2 days before to 1 day after the full moon, or because stops were less than 0.4 mile apart. If a route was covered more than once, only the last trip was included in the computations. These procedures were followed in order to make the survey results comparable with surveys in previous years. The reliability of the annual survey depends upon the comparability of the counts from each route, State by State, and region by region. Therefore, it is important that cooperators follow the survey instructions as closely as possible. A route should be run only once each year unless factors such as wind, temperature, traffic or other noise result in a non-representative count. If a route is covered more than once, the cooperator should clearly indicate the reason for the second trip.

Adjustment for Length of Route

Survey data of previous years have been analyzed in two ways: the number of woodcock heard per stop, and the number of woodcock heard per route. Robbins has shown

(Woodcock Newsletters: No. 1, 1958, and No. 2, 1959) that both comparisons yield approximately the same results in terms of year-to-year changes in relative population levels. It is believed that the number of birds per route is more useful than the number per stop, however, because routes with the most stops apparently occur in areas of higher population. Thus, the data from a State or Province are weighted to some extent by the average number of birds per route.

Adjustments of the data were made for routes that did not have the same number of stops each year. Data for the year with the larger number of stops were reduced to make them comparable to those for the year with the smaller number of stops.

For example, 16 birds were reported in 1960 for 11 stops on Route 1 in Michigan and 14 birds were reported for 10 stops along the same route in 1961. For purposes of comparison the 16 birds in 1960 were reduced to 15 birds at 10 stops that year. In most instances, as shown in Table 1, the necessary adjustments were slight.

Weighting Factors

Survey data must be weighted because the number of routes varies from area to area without relation to woodcock populations. Adequate figures on population density and suitable breeding habitat are lacking. As a substitute, the average number of woodcock per route was weighted according to the land area of the State or Province. The land areas used for weighting include the area of uncultivated land, adjusted in a few cases where large portions of a State or Province lay in ecological regions where there is no woodcock habitat. The area sizes are shown in Table 2. Further details are in the 1960 Woodcock Status Report (U.S. Fish and Wildlife Service, Special Scientific Report - Wildlife No. 50). It is realized that much unfavorable nesting habitat is included, and it is anticipated that future study will permit considerable refinement of the weighting procedure.

Population Indexes

Relative population levels were computed as the percentage change (+) in 1961 from 1960. For an individual State or Province the extent and direction of this change is indicated by the difference in the average number of birds per route. Trends in population indexes on a regional basis are calculated by multiplying the average number of birds per route in each State or Province by the uncultivated land area in that State or Province.

RESULTS

Table 1 shows the changes between 1960 and 1961 in total woodcock recorded on survey routes, adjusted only for varying numbers of stops along the same route in the two years. Population trends are shown in Table 2.

The population index increased 10 per cent in the Eastern Region between 1960 and 1961 and increased 8 per cent in the Western Region. The increase in the two regions combined was 9 per cent.

The mean difference in birds per route (1961 minus 1960) was calculated for the 6 States that had 10 or more comparable routes. The means and standard errors of the mean were: Connecticut 0.1 ± 0.4 , Maine 0.5 ± 0.4 , Michigan 0.7 ± 0.6 , New Hampshire -0.3 ± 0.7 , New York 1.2 ± 0.4 , Pennsylvania 1.2 ± 1.1 . It is evident that except for New York, chance could have been responsible for the observed differences.

It is clear that refinement of the Singing Ground Survey is necessary. The survey method should be further standardized. All important parts of the breeding range should be adequately represented in the survey. One of the most critical needs is an evaluation of the extent to which changes in counts on selected routes reflect actual changes in the breeding population. It is hoped that studies designed to solve these pressing problems will be initiated in the near future.

ACKNOWLEDGEMENTS

The annual Singing Ground Survey would not be possible without the cooperation of the Canadian Wildlife Service, the State Conservation Departments and the individuals on their staffs. The names of persons who made counts are given in Tables 3 and 4. Field data were compiled, in part, by personnel in both the Canadian Wildlife Service and Regions 3, 4 and 5 of the Bureau. The following State agencies participated in the 1961 survey:

Connecticut Board of Fisheries and Game
Indiana Department of Conservation
Illinois Department of Conservation
Iowa Conservation Commission
Kentucky Department of Fish and Wildlife Resources
Maine Department of Inland Fisheries and Game, and Maine
Cooperative Wildlife Research Unit
Massachusetts Cooperative Wildlife Research Unit
Michigan Department of Conservation
Minnesota Department of Conservation
New Hampshire Fish and Game Department
New Jersey Department of Conservation and Economic Development
North Carolina Wildlife Resources Commission
Ohio Department of Natural Resources
Pennsylvania Game Commission, and Pennsylvania Cooperative
Wildlife Research Unit
West Virginia Conservation Commission
Wisconsin Conservation Department

Table 1.--Woodcock Recorded on Comparable Singing Ground Routes,
1960 and 1961

EASTERN REGION

State or Province	Number of Comparable Routes	Total Woodcock on Comparable Routes		Adjusted Total Woodcock on Comparable Routes	
		1960	1961	1960	1961
Connecticut	12	48	49	48	49
Maine	40	393	412	390	411
Maryland	3	6	3	6	3
Massachusetts	7	60	66	60	54
New Brunswick	9	85	87	85	87
New Hampshire	13	71	67	71	67
New Jersey	3	9	13	9	13
New York	24	159	184	149	177
North Carolina	9	11	19	10	16
Nova Scotia	5	29	23	23	23
Pennsylvania	17	112	130	109	129
Prince Edward Is.	3	20	22	17	20
Vermont	5	39	37	34	36
Regional Total	150	1042	1112	1011	1085
Per cent change		+6.7%		+7.3%	

WESTERN REGION

Kentucky	7	8	16	8	15
Michigan	41	387	422	374	405
Minnesota	4	24	22	24	21
Ohio	7	89	90	88	83
Ontario	8	38	43	37	38
West Virginia	5	15	17	15	17
Wisconsin	1	4	6	4	6
Regional Total	73	565	616	550	585
Per cent change		+9.0%		+6.4%	
Continental Total	223	1607	1728	1561	1670
Per cent change		+7.6%		+7.0%	

Table 2.--Trends in Woodcock Recorded on Singing Ground Routes,
1960 to 1961

EASTERN REGION

State or Province	Uncult. Land (sq.mi.)	Number of Comparable Routes	Adjusted Average Number of Birds Per Route & Indexes				Per Cent Chg.
			1960		1961		
			Average	Index	Average	Index	
Connecticut	4,180	12	4.0	17	4.1	17	+ 2
Maine	29,051	40	9.8	285	10.3	299	+ 5
Maryland	6,564	3	2.0	13	1.0	7	-50
Massachusetts	7,006	7	8.6	60	7.7	54	-10
New Brunswick	26,099	9	9.4	245	9.7	253	+ 3
New Hampshire	8,420	13	5.5	46	5.2	44	- 6
New Jersey	5,827	3	3.0	17	4.3	25	+43
New York	35,667	24	6.2	221	7.4	264	+19
North Carolina	38,075	9	1.1	42	1.8	69	+64
Nova Scotia	19,913	5	4.6	92	4.6	92	0
Pennsylvania	33,717	17	6.4	216	7.6	256	+19
Prince Edward Is.	1,441	3	5.7	8	6.7	10	+18
Vermont	7,619	5	6.8	52	7.2	55	+ 6
Regional Total	223,579	150		1,314		1,444	+10

WESTERN REGION

Kentucky	23,528	7	1.1	26	2.1	49	+91
Michigan	40,166	41	9.1	366	9.8	394	+ 8
Minnesota 1/2	22,666	4	6.0	136	5.2	118	-13
Ohio	21,002	7	12.6	265	11.9	250	- 6
Ontario 1/3	111,405	8	4.6	512	4.8	535	+ 4
West Virginia	21,238	5	3.0	64	3.4	72	+13
Wisconsin	34,892	1	4.0	140	6.0	209	+50
Regional Total	274,897	73		1,508		1,627	+ 8
Continental Total	498,476	223		2,822		3,071	+ 9

Table 3.--Comparison of 1960 and 1961 Woodcock Singing Ground Counts
East of the Appalachians

Rt. no.	County and locality	Observer	1960			1961		
			Total birds	Total stops	Mean birds per stop	Total birds	Total stops	Mean birds per stop
<u>CONNECTICUT</u>								
14	Hartford Co. Barkhamsted #1	A. Lamson	5	11	.45	5	10	.50
2	Hartford Co. Barkhamsted #2	A. Lamson	5	10	.50	5	10	.50
3	Hartford Co. Farmington	J. Bishop	3	6	.50	2	6	.33
1	Hartford Co. Glastonbury	M. Belden	5	8	.62	2	8	.25
5	Litchfield Co. Litchfield #1 & #2	R. Billard	4	7	.57	5	7	.71
15	Litchfield Co. Sandtown Rd.	W. Sondrini	4	6	.67	3	6	.50
17	Middlesex Co. Portland	M. Arnold	4	7	.57	5	7	.71
10	New Haven Co. Guilford	O. Beckley	3	6	.50	2	6	.33
9	New Haven Co. Guilford-No. Branford	O. Beckley	1	6	.17	1	6	.17
18	New Haven Co. Wallingford #1	H. Bluege	7	6	1.17	8	6	1.33
16	New London Co. Montville	Dr. B. Wheeler	--	--	--	3	6	.50
11	Tolland Co. Shenipsit #2	R. Billard	5	7	.71	8	7	1.14
12	Tolland Co. Shenipsit #3	R. Billard	2	7	.29	3	7	.43
19	Windham Co. Eastford	R. Billard	3	7	.43	--	--	--
Total			48	87	.55	49	86	.57
<u>MAINE</u>								
2	Aroostook Co. Ashland	H. Carson	9	11	.82	15	11	1.36
62	Aroostook Co. Haynesville River	F. Dunn	13	8	1.62	--	--	--
7	Aroostook Co. Hodgdon	H. Mendall	5	8	.62	3	8	.38
6	Aroostook Co. Knowles Corner	F. Dunn	7	8	.88	--	--	--

Table 3.--Comparison of 1960 and 1961 Woodcock Singing Ground Counts
East of the Appalachians (Continued)

Rt. no.	County and locality	Observer	1960			1961		
			Total birds	Total stops	Mean birds per stop	Total birds	Total stops	Mean birds per stop
MAINE (continued)								
3	Aroostook Co. Oxbow	H. Carson	9	13	.69	15	13	1.15
154	Cumberland Co. Brunswick	F. Whitman, Jr. & H. Tyler, Jr.	--	--	--	12	11	1.09
74	Cumberland Co. Durham Rd. Rt. 136	E. Baker	8	10	.80	6	10	.60
151	Cumberland Co. Harpswell Neck	C. Huntington	7	7	1.00	9	7	1.29
72	Cumberland Co. Hatch-Merrill Br. Rd.	E. Baker	12	8	1.50	15	8	1.88
141	Franklin Co. New Sharon	R. Boettger	7	9	.78	6	9	.67
10	Franklin Co. Salem	R. Boettger	12	8	1.50	15	8	1.88
15	Hancock Co. Mud Creek (Lamoine)	J. Peppard	20	10	2.00	23	10	2.30
11	Hancock Co. Whalesback	J. Peppard	15	9	1.67	11	9	1.22
87	Kennebec Co. Belgrade Rt. 135	W. DeGarmo	16	13	1.23	10	13	.77
20	Kennebec Co. Belgrade Stream	W. DeGarmo	12	11	1.09	16	11	1.45
156	Kennebec Co. Oak Hill Rd.	E. Baker	--	--	--	13	10	1.30*
19	Kennebec Co. Readfield Depot	W. DeGarmo	12	10	1.20	7	10	.70
85	Kennebec Co. Sidney Line	K. Anderson	8	11	.73	7	11	.64
21	Knox Co. St. George	K. Anderson	14	10	1.40	13	10	1.30
90	Lincoln Co. Dresden Mills	E. Baker	11	6	1.83	9	6	1.50
91	Oxford Co. Pleasant Pond	D. Marston	5	11	.45	--	--	--
30	Penobscot Co. Chester (Rt. 11)	G. Aiken	3	10	.30	--	--	--
29	Penobscot Co. Enfield	G. Aiken	1	8	.12	--	--	--

* new route run in 1961

Table 3.--Comparison of 1960 and 1961 Woodcock Singing Ground Counts
East of the Appalachians (Continued)

Rt. no.	County and locality	Observer	1960			1961		
			Total birds	Total stops	Mean birds per stop	Total birds	Total stops	Mean birds per stop
<u>MAINE</u> (continued)								
24	Penobscot Co. R. Gibbs** Greenbush		17	10	1.70	17	10	1.70
27	Penobscot Co. D. Holmes Kenduskeag		9	12	.75	13	12	1.08
99	Penobscot Co. M. Smart No. Branford, Rte. #11		12	11	1.09	10	11	.91
102	Penobscot Co. G. Aiken Winn, Lee Rd.		3	9	.33	--	--	--
111	Piscataquis Co. M. Smart Abbot		9	10	.90	--	--	--
108	Piscataquis Co. M. Smart Medford, Rt. 16		14	12	1.17	12	12	1.00
155	Piscataquis Co. D. Holmes Sangerville		5	8	.62	--	--	--
35	Piscataquis Co. I. Sargent T4 R.10		9	5	1.80	9	5	1.80
36	Piscataquis Co. F. Darling Trout Brook		6	9	.67	5	6	.83
37	Sagadahoc Co. C. Tuttle Bowdoinham (Ridge Rd.)		8	7	1.14	9	7	1.29
115	Sagadahoc Co. K. Anderson Georgetown Line		9	10	.90	6	10	.60
138	Sagadahoc Co. E. Baker Route #138		13	12	1.08	12	12	1.00
149	Somerset Co. R. Boettger E. New Portland		8	9	.89	12	9	1.33
120	Somerset-Penob. D. Holmes Detroit-Plymouth		8	9	.89	--	--	--
44	Waldo Co. D. Holmes Sandy Point		10	9	1.11	10	9	1.11
122	Waldo Co. D. Holmes Winterport		13	14	.93	12	14	.86
51	Washington Co. J. Dudley Alexander (Lake Rd.)		10	6	1.67	11	6	1.83
45	Washington Co. H. Stanhope Calais		4	6	.67	5	6	.83
46	Washington Co. H. Mendall Charlotte #1		15	7	2.14	17	7	2.43
47	Washington Co. H. Mendall Charlotte #2		13	8	1.62	14	8	1.75
123	Washington Co. H. Mendall Charlotte Sta. Rd.		10	8	1.25	11	8	1.38

** 1961 observer; see last year's report for 1960 observer

Table 3.--Comparison of 1960 and 1961 Woodcock Singing Ground Counts
East of the Appalachians (Continued)

Rt. no.	County and locality	Observer	1960			1961		
			Total birds	Total stops	Mean birds per stop	Total birds	Total stops	Mean birds per stop
<u>MAINE</u> (continued)								
52	Washington Co. L. Bagley Edmunds #1		6	6	1.00	4	6	.67
156	Washington Co. A. Davis Edmunds #4		2	6	.33	--	--	--
54	Washington Co. L. Bagley Edmunds #3		7	8	.88	9	8	1.12
127	Washington Co. H. Blanchard Jacksonville, Rt. 191		12	9	1.33	--	--	--
152	Washington Co. H. Mendall Meddybemps		7	7	1.00	10	7	1.43
53	Washington Co. A. Davis North Trail (1st half)		5	7	.71	5	6	.83
53A	Washington Co. A. Davis North Trail (2nd half)		1	4	.25	3	5	.60
129	Washington Co. J. Peppard Marion, Rt. 14		16	10	1.60	--	--	--
59	York Co. D. Stanton Lyman		5	10	.50	10	10	1.00
136	York Co. D. Stanton Maplewood		5	8	.62	6	8	.75
Total			393	359	1.09	412	356	1.16
<u>MARYLAND</u>								
4	Anne Arundel Co. C. Robbins Brock Br. Rd.		2	7	.29	2	7	.29
1	Pr. Geo. Co. C. Kaczynski Ft. Meade Gate		2	10	.20	1	9	.11
2	Pr. Geo. Co. C. Kaczynski Muirkirk Rd.		2	6	.33	0	9	.00
Total			6	23	.26	3	25	.12
<u>MASSACHUSETTS</u>								
7	Barnstable Co. W. Fitzpatrick Marston Mills		13	11	1.18	12	11	1.09
8	Berkshire Co. F. Richardson Williamstown		7	7	1.00	7	7	1.00
4	Franklin Co. E. Howard, Jr. Leverett		6	8	.75	7	9	.78

Table 3.--Comparison of 1960 and 1961 Woodcock Singing Ground Counts
East of the Appalachians (Continued)

Rt. no.	County and locality	Observer	1960			1961		
			Total birds	Total stops	Mean birds per stop	Total birds	Total stops	Mean birds per stop
<u>MASSACHUSETTS</u> (continued)								
6	Franklin Co. Shutesbury	G. Hobart	9	9	1.00	9	9	1.00
9	Plymouth Co. Halifax & Plympton	J. DiCarlo	7	11	.64	2	13	.15
2	Worcester Co. Gate 40 - Quabbin	W. Sheldon	7	10	.70	8	16	.50
3	Worcester Co. MDC, Quabbin	W. Sheldon	11	11	1.00	21	18	1.17
Total			60	67	.90	66	83	.80
<u>NEW BRUNSWICK</u>								
6	Albert Co. Turtle Creek	C. Bartlett	17	11	1.55	--	--	--
14	Charlotte Co. Lawrence Sta.	C. Bartlett	11	10	1.10	16	10	1.60
12	Charlotte Co. Rolling Dam	C. Bartlett & A. Clark	10	8	1.25	8	8	1.00
15	Charlotte Co. South Branch Coves	B. Wright	--	--	--	22	13	1.69*
2	Westmorland Co. Cooksville Rd.	C. Bartlett	6	8	.75	8	8	1.00
13	Westmorland Co. Fairfield	C. Bartlett	9	11	.82	8	11	.73
1	Westmorland Co. Rockport Rd.	C. Bartlett**	5	8	.62	3	8	.38
10	York Co. Charters' Settlement	B. Wright	11	10	1.10	6	10	.60
9	York Co. Kingsley Bridge	N. Brown**	8	10	.80	12	10	1.20
11	York Co. Mazerol Settl.	D. Inch**	14	10	1.40	8	10	.80
8	York Co. Richibucto Rd.	B. Wright	11	10	1.10	18	10	1.80
Total			85	85	1.00	87	85	1.02

* new route run in 1961

** 1961 observer; see last year's report for 1960 observer

Table 3.--Comparison of 1960 and 1961 Woodcock Singing Ground Counts
East of the Appalachians (Continued)

Rt. no.	County and locality	Observer	1960			1961		
			Total birds	Total stops	Mean birds per stop	Total birds	Total stops	Mean birds per stop
<u>NEW HAMPSHIRE</u>								
1	Coos. Co. Pittsburg	C. Carlson	10	11	.91	10	11	.91
10	Merrimack Co. Hopkinton-Webster	D. Allison	0	10	.00	5	9	.56
2	Merrimack Co. No. Pembroke	S. Dole, Jr.	3	7	.43	3	8	.38
3	Merrimack Co. Pembroke Hill	S. Dole, Jr.	2	6	.33	1	6	.17
17	Merrimack Co. III No. Pembroke	S. Dole, Jr.	6	6	1.00	6	6	1.00
11	Merrimack Co. Pembroke	H. Lacaille	--	--	--	2	4	.50*
6	Merrimack Co. Webster	F. Fogg	5	11	.45	5	11	.45
13	Rockingham Co. Mill Pond Rd.	H. Brown	5	11	.45	4	11	.36
18	Rockingham Co. Bay Rd.	H. Brown	8	7	1.14	3	8	.38
7	Rockingham Co. Durham Point Rd.	H. Brown	11	7	1.57	10	7	1.43
15	Strafford Co. Mt. Misery Rd.	H. Brown	6	9	.67	3	9	.33
8	Strafford Co. Rochester Rd.	H. Brown	5	8	.62	3	8	.38
16	Strafford Co. Ten Rod Rd.	H. Brown	6	9	.67	9	9	1.00
9	Strafford Co. Tolend Rd.	H. Brown	4	9	.44	5	9	.56
Total			71	111	.64	67	112	.60
<u>NEW JERSEY</u>								
2	Atlantic Co. Tuckahoe	F. Ferrigno	5	9	.56	6	9	.67
4	Cumberland Co. Haleyville P.S. Grnds.	E. Tomlin**	3	10	.30	4	10	.40
3	Sussex Co. Walpack	R. Spinks	1	7	.14	3	8	.38
Total			9	26	.35	13	27	.48

* new route run in 1961

** 1961 observer; see last year's report for 1960 observer

Table 3.--Comparison of 1960 and 1961 Woodcock Singing Ground Counts
East of the Appalachians (Continued)

Rt. no.	County and locality	Observer	1960			1961		
			Total birds	Total stops	Mean birds per stop	Total birds	Total stops	Mean birds per stop
<u>NEW YORK</u>								
2	Albany Co. Dunbar Hollow	D.Schierbaum**	5	9	.56	10	12	.83
1	Albany Co. Partridge Run	D.Schierbaum**	2	7	.29	5	6	.83
5	Allegany Co. Hanging Bog	L. Cooper	3	9	.33	5	5	1.00
33	Cattaraugus Co. Red House	W. Shirey	12	13	.92	--	--	--
34	Cattaraugus Co. Wayman Branch	F. Evans	5	12	.42	--	--	--
26	Chautauqua Co. Ashville	G. Noble**	4	14	.29	5	10	.50
35	Chautauqua-Cattar. Dredge Ditch Rd.	C. Mount	5	12	.42	5	9	.56
27	Chautauqua Co. Gerry	G. Noble	4	9	.44	5	9	.56
7	Chenango Co. Pharsalia	P. Kelsey	3	9	.33	6	9	.67
36	Duchess Co. Shenandoah	M. Rodak	7	9	.78	8	9	.89
8	Essex Co. Putnam Creek	G. Davis	16	12	1.33	14	11	1.27
9	Essex Co. Wilmington	J. Hart**	12	12	1.00	12	11	1.09
10	Franklin Co. Lyon Brook	J. Hart**	26	11	2.36	17	9	1.89
11	Hamilton Co. Indian Lake (Cedar R.)	W. Sabin**	11	7	1.57	14	10	1.40
14	Jefferson Co. Ives St. Rd.	S. Northrop	5	4	1.25	4	4	1.00
24	Jefferson Co. Rodman	S. Northrop	5	4	1.25	8	4	2.00
37	Madison Co. Nelson	H. Weiskotten	10	9	1.11	--	--	--
12	Onondaga Co. Baldwinsville	M. Alexander**	16	10	1.60	14	10	1.40
15	Oswego Co. Happy Valley	J. Renkavinsky	4	10	.40	--	--	--
40	Rensselaer Co. Cherry Plain	W. Hammersmith	--	--	--	9	12	.75*

* new route run in 1961

** 1961 observer; see last year's report for 1960 observer

Table 3.--Comparison of 1960 and 1961 Woodcock Singing Ground Counts
East of the Appalachians (Continued)

Rt. no.	County and locality	Observer	1960			1961		
			Total birds	Total stops	Mean birds per stop	Total birds	Total stops	Mean birds per stop
<u>NEW YORK</u> (continued)								
16	Saratoga Co. Reynold's Corner	C. McNulty**	2	8	.25	5	6	.83
38	Steuben Co. Demons Pond	F. Slater	6	6	1.00	--	--	--
41	Suffolk Co. Fort Salonga	E. Mudge	--	--	--	5	7	.71*
39	Suffolk Co. Manorville	G. Raynor	3	10	.30	--	--	--
32	Suffolk Co. Southampton	K. Liehr	13	10	1.30	10	10	1.00
28	Tompkins Co. Conn. Hill #1	R. Cameron	1	11	.09	3	10	.30
29	Tompkins Co. Conn. Hill #2	R. Cameron	0	7	.00	4	7	.57
30	Tompkins Co. Conn. Hill #3	R. Cameron	0	10	.00	1	9	.11
31	Tompkins Co. Conn. Hill #4	R. Cameron	0	7	.00	3	7	.43
18	Tompkins Co. Dryden	P. Kelsey**	4	9	.44	6	10	.60
22	Washington Co. Adamsville	C. McNulty**	2	8	.25	5	8	.62
42	Wayne Co. Huckleberry Swamp	R. Cottrell	--	--	--	9	6	1.50*
43	Wayne Co. North Wolcott	R. Cottrell	--	--	--	6	6	1.00*
25	Wayne Co. Wayne Center	R. Cottrell	13	6	2.17	15	6	2.50
Total			159	214	.74	184	201	.92

NORTH CAROLINA

13	Beaufort Co. Market St.	A. Noltemeier & R. Halstead	4	8	.50	2	8	.25
2	Burke Co. Glen Alpine	J. Collins**	1	6	.17	1	6	.17
3	Burke Co. Southern R.R.E.	J. Collins**	1	10	.10	1	10	.10

* new route run in 1961

** 1961 observer; see last year's report for 1960 observer

Table 3.--Comparison of 1960 and 1961 Woodcock Singing Ground Counts
East of the Appalachians (Continued)

Rt. no.	County and locality	Observer	1960			1961		
			Total birds	Total stops	Mean birds per stop	Total birds	Total stops	Mean birds per stop
<u>NORTH CAROLINA</u> (continued)								
1	Chatham Co. New Hope Farm	G. Barnes**	4	9	.44	3	7	.43
14	Carteret Co. Bayside Farm (Crab Pt.)	G. Ross	0	9	.00	0	9	.00
15	Caswell Co. Hico Cr. So.	G. Barnes	0	4	.00	0	4	.00
12	Columbus Co. Boardman	A. Weber**	--	--	--	2	9	.22
18	Davidson Co. Old Tuckerton Rd.	D. Taylor	--	--	--	1	9	.11*
5	Henderson Co. Old N. Main St.	R. Bird	1	9	.11	5	13	.38
6A	Henderson Co. Blue Ridge	R. Bird	0	10	.00	3	15	.20
11	Lenoir Co. Bear Creek	R. Bell	0	11	.00	--	--	--
19	Pitt Co. Highway 11	S. Poole	--	--	--	0	4	.00*
16	Robeson Co. Bladensboro	A. Weber**	0	20	.00	4	11	.36
17	Rowan Co. Hwy. 29--Pee Dee River	D. Taylor	0	10	.00	--	--	--
Total			11	85	.13	19	83	.23
<u>NOVA SCOTIA</u>								
5	Annapolis Co. Beaconsfield	M. Bent	3	10	.30	--	--	--
6	Annapolis Co. Wilmot	M. Bent	3	7	.43	--	--	--
8	Annapolis Co. Douglas Rd.	M. Bent	5	9	.56	--	--	--
20	Antigonish Co. Pomquet	A. Erskine	--	--	--	5	10	.50
10	Cumberland Co. Athol Rd.	C. Banks	11	8	1.38	--	--	--
9	Cumberland Co. Boar's Back Rd.	D. Lawson	14	14	1.00	14	11	1.27
21	Cumberland Co. Boar's Back Rd. (North)	D. Lawson	--	--	--	9	11	.82*
22	Cumberland Co. Two Islands Rd.	H. Hatfield	--	--	--	8	10	.80*

* new route run in 1961

** 1961 observer; see last year's report for 1960 observer

Table 3.--Comparison of 1960 and 1961 Woodcock Singing Ground Counts
East of the Appalachians (Continued)

Rt. no.	County and locality	Observer	1960			1961		
			Total birds	Total stops	Mean birds per stop	Total birds	Total stops	Mean birds per stop
<u>NOVA SCOTIA (continued)</u>								
11	Digby Co. Gilberts' Cove	M. Bent	4	10	.40	--	--	--
12	Halifax Co. Prospect Rd.	L. MacPherson	2	5	.40	--	--	--
13	Halifax Co. Old Guysborough	W. Mills	2	8	.25	--	--	--
14	Halifax Co. Willenburg Rd.	E. MacQuarrie	8	7	1.14	--	--	--
23	Inverness Co. River Denys	A. Erskine	--	--	--	4	8	.50*
7	Kings Co. Davison	R. Tufts	6	9	.67	1	8	.12
2	Kings Co. Greenfield	R. Tufts	3	8	.38	0	8	.00
24	Kings Co. Kentville (Aldershot)	H. Thurber	--	--	--	5	12	.42*
15	Kings Co. Lake George Rd.	N. van Nostrand	5	14	.36	6	9	.67
3	Kings Co. Melanson Mt.	R. Tufts	1	7	.14	2	7	.29
25	Kings Co. Lake Aylesford-L. George	D. Dodds	--	--	--	5	8	.62*
26	Kings Co. McGee Lake-L. Aylesford	D. Dodds	--	--	--	4	12	.33
27	Kings Co. New Ross Rd.	N. van Nostrand	--	--	--	5	14	.36*
28	Victoria Co. Baddeck River	A. Erskine	--	--	--	3	7	.43*
16	Yarmouth Co. Leighton St.	M. Bent	3	9	.33	--	--	--
17	Yarmouth Co. Plymouth-Wedgfort	J. Pothier	2	6	.33	--	--	--
Total			29	52	.56	23	43	.54

PENNSYLVANIA

3	Blair Co. Bald Eagle	H. Henry	11	10	1.10	20	10	2.00
1	Centre Co. Barrens	R. Wingard	14	11	1.27	--	--	--

* new route run in 1961

Table 3.--Comparison of 1960 and 1961 Woodcock Singing Ground Counts
East of the Appalachians (Continued)

Rt. no.	County and locality	Observer	1960			1961		
			Total birds	Total stops	Mean birds per stop	Total birds	Total stops	Mean birds per stop
<u>PENNSYLVANIA</u> (continued)								
6	Centre Co. Julian	S. Liscinsky**	--	--	--	2	8	.25
5	Centre Co. Martha Furnace	S. Liscinsky	14	9	1.56	7	9	.78
4	Centre Co. Port Matilda	S. Liscinsky**	--	--	--	13	10	1.30
7	Centre Co. Unionville	M. Runner	3	8	.38	--	--	--
22	Crawford Co. Geneva	H. Pratt	4	6	.67	2	6	.33
46	Crawford Co. Linn Rd.	P. Miller	--	--	--	3	8	.38*
29	Erie Co. Albion	W. Jones	3	10	.30	4	8	.50
14	Huntingdon Co. Neff Mills	R. Melton	1	8	.12	1	8	.12
2	Huntingdon Co. Stone Valley	W. & L. Sharp	9	12	.75	6	12	.50
38	Indiana Co. Aultman Run	K. Gardner	3	12	.25	13	13	1.00
39	Indiana Co. Clarksburg	K. Gardner	4	9	.44	6	9	.67
19	Indiana Co. Penn Run	K. Gardner	9	7	1.29	14	7	2.00
9	Juniata Co. Mifflin	W. Taylor	4	4	1.00	2	4	.50
20	Lackawanna Co. Thornhurst	S. Kish	9	12	.75	13	12	1.08
44	Luzerne Co. Drums	S. Laputka	8	10	.80	7	10	.70
21	Luzerne Co. Freeland	S. Laputka	6	8	.75	5	8	.62
45	Luzerne Co. White Haven	G. Lesho	4	8	.50	--	--	--
32	Mercer Co. Sharpsville	D. Carbone	7	9	.78	6	9	.67
8	Mifflin Co. Atkinson Mills	J. Taylor	8	8	1.00	7	8	.88
15	Pike Co. Blooming Grove	A. Kriefski	9	9	1.00	14	7	2.00

* new route run in 1961

** 1961 observer; see last year's report for 1960 observer

Table 3.--Comparison of 1960 and 1961 Woodcock Singing Ground Counts
East of the Appalachians (Continued)

Rt. no.	County and locality	Observer	1960			1961		
			Total birds	Total stops	Mean birds per stop	Total birds	Total stops	Mean birds per stop
<u>PENNSYLVANIA (continued)</u>								
13	Westmoreland Co. Ardara	J. Liss	3	5	.60	3	5	.60
Total			112	148	.76	130	145	.90

PRINCE EDWARD ISLAND

6	Kings Co. Fortune	Cst. H.Burns**	6	7	.86	--	--	--
5	Kings Co. Martinvale	Csts.H.Burns & R. Corrigan	3	7	.43	8	9	.89
4	Princes Co. Conway	Cst. J.Potts**	11	10	1.10	8	8	1.00
7	Queens Co. Avondale	Cst.R.Corrigan	2	7	.29	--	--	--
8	Queens Co. Point DeRoche	Cst. V. Autio**	6	11	.55	6	9	.67
Total			20	28	.71	22	26	.85

*** 1961 observer; see last year's report for 1960 observer

Rt. no.	County and locality	Observer	1960			1961		
			Total birds	Total stops	Mean birds per stop	Total birds	Total stops	Mean birds per stop
<u>VERMONT</u>								
19	Chittenden Co. Pleasant Valley	D. Dupee	4	11	.36	6	10	.60
22	Chittenden Co. Westford	D. Dupee	12	11	1.09	15	12	1.25
20	Franklin Co. Highgate	A. Vanslette	6	7	.86	6	5	1.20
7	Franklin Co. Swanton #1, Maquam Rd.	E. Chandler	5	10	.50	7	9	.78
14	Franklin Co. Swanton #2, Rt. 78	E. Chandler**	12	8	1.50	3	7	.43
Total			39	47	.83	37	43	.86

Table 4.--Comparison of 1960 and 1961 Woodcock Singing Ground Counts
West of the Appalachians

Rt. County and no. locality	Observer	1960			1961		
		Total birds	Total stops	Mean birds per stop	Total birds	Total stops	Mean birds per stop
<u>ILLINOIS</u>							
1 Adams Co. Melrose #4	L. Mehrhoff	--	--	--	1	10	.10*
2 LaSalle Co. Deer Park	M. Wilson	--	--	--	2	9	.22*
3 Mason Co. Havana	K. Norman	--	--	--	0	11	.00*
Total		--	--	--	--	--	--
<u>INDIANA</u>							
1 Daviess Co. Harrison #1	R. Hamilton	--	--	--	3	8	.38*
2 Kosciusko Co. Turkey Creek #1	J. McCall	--	--	--	1	8	.12*
3 LaGrange Co. Lima #1	D. Martin	--	--	--	11	6	1.83*
4 LaGrange Co. Springfield #2	D. Martin	--	--	--	11	6	1.83*
5 Newton Co. Beaver-McClellan	W. Madden	--	--	--	1	9	.11*
6 Newton Co. Willow Slough	W. Madden	--	--	--	0	9	.00*
7 Pulaski Co. Franklin #1	R. Anderson	--	--	--	11	11	1.00*
Total		--	--	--	--	--	--
<u>IOWA</u>							
1 Allamakee Co. Luster Heights	G. Klonglan	--	--	--	6	12	.50*
2 Allamakee Co. Paint Creek	G. Klonglan	--	--	--	1	13	.08*
3 Allamakee Co. Upper Iowa	G. Klonglan	--	--	--	2	10	.20*
4 Clayton Co. Magill Creek	G. Klonglan	--	--	--	1	11	.09*
Total		--	--	--	--	--	--

* new route run in 1961

Table 4.--Comparison of 1960 and 1961 Woodcock Singing Ground Counts
West of the Appalachians (Continued)

Rt. no.	County and locality	Observer	1960			1961		
			Total birds	Total stops	Mean birds per stop	Total birds	Total stops	Mean birds per stop
<u>KENTUCKY</u>								
17	Anderson Co. Van Buren Rd.	R. Eversole	2	10	.20	1	10	.10
7	Bullitt Co. Bardstown Jct.	R. Eversole	0	10	.00	0	10	.00
18	Casey Co. S. of Danville	J. Storner	0	11	.00	2	16	.12
4	Christian Co. Bennettstown Rd.	C. Kays	0	9	.00	0	9	.00
2	Edmonson Co. Sloans Crossing	D. Russell	0	8	.00	--	--	--
5	Hardin Co. Ord. Comp. Gate	J. Bruna	0	11	.00	--	--	--
21	Henderson Co. Geneva	W. Parker	--	--	--	0	9	.00*
14	Laurel Co. Hwy. #30	O. Bryant	4	10	.40	6	10	.60
19	Laurel Co. E. of E. Bernstadt	H. Stephens	6	8	.75	--	--	--
22	McCracken Co. Olivet Church Rd.	W. Lee	--	--	--	0	9	.00*
15	McCreary Co. Creekmore	C. Stephens	2	10	.20	0	10	.00
20	Taylor Co. Robinson Cr. Rd.	E. Bertram	0	11	.00	7	11	.64
Total			8	71	.11	16	76	.21
<u>MICHIGAN</u>								
1	Alger Co. Stutts Creek	L. Verme	16	11	1.45	14	10	1.40
78A	Alpena Co. Alpena-No. Wellington	T. Fairbanks	8	13	.62	8	13	.62
79	Antrim Alba	J. Winship	11	11	1.00	16	10	1.60
100	Antrim Co. North Jordan	J. Winship	--	--	--	19	9	2.11*
37	Baraga Co. L'Anse, Silver R.	R. Rafferty	7	8	.88	8	8	1.00

* new route run in 1961

Table 4.--Comparison of 1960 and 1961 Woodcock Singing Ground Counts
West of the Appalachians (Continued)

Rt. no.	County and locality	Observer	1960			1961		
			Total birds	Total stops	Mean birds per stop	Total birds	Total stops	Mean birds per stop
<u>MICHIGAN</u> (continued)								
38	Baraga Co. Clear Creek	J. Pann	9	11	.82	8	10	.80
80	Barry Co. #1	C. Storkan	7	10	.70	7	11	.64
101	Barry Co. #2	C. Storkan	--	--	--	15	12	1.25*
102	Benzie Co. Little Betsie River	W. Goudy	--	--	--	14	7	2.00*
103	Cheboygan Co. Andy Grant Rd.	J. Winship	--	--	--	31	11	2.82*
81	Cheboygan Co. Indian River #1	J. Winship	9	9	1.00	8	8	1.00
82	Cheboygan Co. Indian River #2	J. Winship	13	9	1.44	7	6	1.17
83	Cheboygan Co. Tin Bridge	J. Winship	21	8	2.62	28	9	3.11
9	Clinton & Shiawassee Co. Rose Lake	L. Ryel	4	8	.50	5	8	.62
6	Chippewa Co. Drummond Is.	R. Strong	13	10	1.30	15	10	1.50
84	Chippewa Co. Chippewa	B. McLeod	4	9	.44	7	9	.78
85	Chippewa Co. #2	P. Drake	3	3	1.00	3	3	1.00
86	Chippewa Co. Dunbar	R. Strong	10	10	1.00	9	10	.90
76	Dickinson Co. Channing	I. Thomson	--	--	--	18	11	1.64
87	Dickinson Co. Floodwood Rd.	R. DeGayner**	11	7	1.57	5	9	.56
104	Dickinson Co. Floodwood Plains	D. Wenzel	--	--	--	4	10	.40*
105	Emmett Co. Douglas Lake	J. Winship	--	--	--	17	8	2.12*
106	Emmett Co. E. Br., Maple River	J. Winship	--	--	--	26	8	3.25*
88	Gratiot Co. Gratiot-Saginaw #1	W. Palmer	26	10	2.60	13	10	1.30
89	Gratiot Co. Gratiot-Saginaw #2	W. Palmer	15	12	1.25	16	12	1.33

* new route run in 1961

** 1961 observer; see last year's report for 1960 observer

Table 4.--Comparison of 1960 and 1961 Woodcock Singing Ground Counts
West of the Appalachians (Continued)

Rt. no.	County and locality	Observer	1960			1961		
			Total birds	Total stops	Mean birds per stop	Total birds	Total stops	Mean birds per stop
<u>MICHIGAN</u> (continued)								
13	Gladwin Co. Cedar River	A. Boyce	17	10	1.70	13	10	1.30
63	Gladwin Co. Gladwin #2	A. Boyce	14	10	1.40	14	10	1.40
15	Houghton Co. Hopes Creek	R. Rafferty	8	7	1.14	9	7	1.29
90	Huron Co. Swamp Route	C. Braden	8	5	1.60	13	8	1.62
18	Ingham Co. Dansville Game Area	D. Douglass	2	10	.20	9	10	.90
19	Iron Co. Lake Ellen	I. Thomson	10	10	1.00	13	10	1.30
107	Kalamazoo Co. Augusta	R. Van Deusen & T. Smith	--	--	--	3	10	.30*
108	Kalamazoo Co. Gull L.Outlet	R. Van Deusen & T. Smith	--	--	--	5	10	.50*
91	Kalamazoo Co. Hampton Lake	C. Cook	8	11	.73	11	11	1.00
24	Lake Co. Lake 1	P. Baumgrass	9	8	1.12	8	8	1.00
109	Lapeer Co. Deerfield-N. Branch	C. Douville	--	--	--	11	11	1.00*
26	Luce Co. McPhee's Ldg.	O. DeWaard	12	8	1.50	13	9	1.44
66	Luce Co. Natalie #2	O. DeWaard	6	7	.86	12	8	1.50
77	Manistee Co. Thompsonville	W. Goudy**	15	6	2.50	16	9	1.78
67	Mason Co. Mason Co. 1	T. Mackin	11	13	.85	10	11	.91
92	Midland Co. Midland Twp.	E. Kenaga	2	16	.12	--	--	--
78B	Montmorency Donnelly Truck Trail	T. Fairbanks	9	11	.82	10	10	1.00
30	Ogemaw Co. Greenwood Rd.	J. Cook	10	9	.82	12	10	1.20
93	Ontonagon Co. Matchwood	Mrs.R.Lahde	3	5	.60	4	6	.67
94	Ontonagon Co. Ontonagon 1	G. Irvine	12	10	1.20	--	--	--

* new route run in 1961

** 1961 observer; see last year's report for 1960 observer

Table 4.--Comparison of 1960 and 1961 Woodcock Singing Ground Counts
West of the Appalachians (Continued)

Rt. no.	County and locality	Observer	1960			1961		
			Total birds	Total stops	Mean birds per stop	Total birds	Total stops	Mean birds per stop
<u>MICHIGAN</u> (continued)								
95	Ontonagon Co. Ontonagon #2	Mrs.R.Lahde	6	6	1.00	5	6	.83
96	Osceola Co. Evart	E. Mikula	9	9	1.00	14	9	1.56
97	Osceola Co. Doc & Tom Creek	E. Mikula	16	15	1.07	24	15	1.60
32	Otsego Co. Ford No. 1	O. Failing	9	11	.82	7	8	.88
73	Otsego Co. Manistee	R. Rasmussen	7	11	.64	10	11	.91
98	Otsego Co. Deer Camp Trail	H. Townsend	4	7	.57	3	7	.43
34	Roscommon Co. T22N-R4W	R. Moran	1	12	.08	3	12	.25
35	Roscommon Co. Rt. 2 (Michelson)	R. Moran	2	11	.18	4	11	.36
110	Schoolcraft Old Seney Road	W. French	--	--	--	3	6	.50*
111	Tuscola Co. Tuscola Game Area (Apache)	H. Tubbs	--	--	--	2	9	.22*
112	Tuscola Co. Tuscola Game Area (Wells)	H. Tubbs	--	--	--	1	10	.10*
113	Van Buren Co. Whiskey Run	Mrs. D. Beshgetoor	--	--	--	7	11	.64*
99	Van Buren Co. Wolf L. Run	Dr. Freyburger & Mrs.D.Beshgetoor	4	10	.40	8	10	.80
Total			387	381	1.02	422	382	1.10

MINNESOTA

22	Beltrami Co. Hines-Forest Highway	L. Johnson	--	--	--	1	7	.14*
23	Beltrami Co. Medicine Cut Off	L. Johnson	--	--	--	4	10	.40*
11	Carlton Co. Exp. Forest	E. Cramer & D. Sall**	11	10	1.10	8	10	.80
17	Carlton Co. Rifle Range	L. Angell	7	8	.88	6	8	.75
24	Chisago Co. Lent Twp.Rd.	B.Fashingbauer & L.Blankenship	--	--	--	2	8	.25

* new route run in 1961

** 1961 observer; see last year's report for 1960 observer

Table 4.--Comparison of 1960 and 1961 Woodcock Singing Ground Counts
West of the Appalachians (Continued)

Rt. no.	County and locality	Observer	1960			1961		
			Total birds	Total stops	Mean birds per stop	Total birds	Total stops	Mean birds per stop
<u>MINNESOTA (continued)</u>								
2	Cook Co. Bally Creek	W. Rohl, Jr.	4	9	.44	--	--	--
25	Itasca Co. Big Fork River & W.Petraborg	L.Blankenship	--	--	--	7	7	1.00*
26	Koochiching Co. N.Bustie Rd.	L. Blankenship	--	--	--	3	6	.50*
27	Lake Co. County Rd. No.132	L. Downey	--	--	--	7	9	.78*
8	Lake Co. Fernberg	W. Rohl, Jr.	0	8	.00	--	--	--
28	Mille Lacs Co. Headquarters Unit	O. Hagman	--	--	--	6	8	.75*
29	Mille Lacs Co. Quarry-Ranch Rd.	R. Alter	--	--	--	7	7	1.00*
30	Morrison Co. Camp Ripley	J. Idstrom & B. Fashingbauer	--	--	--	5	7	.71*
18	Pine Co. St. Croix River	B. Ellig	2	7	.29	4	10	.40
19	Pine Co. Snake River	B. Ellig	4	9	.44	4	8	.50
20	Pine Co. Rock Creek	B. Ellig	0	9	.00	--	--	--
31	Winona Co. Whitewater #1	T. Hansen	--	--	--	0	9	.00*
Total			24	34	.71	22	36	.61

OHIO

4	Ashtabula Co. Andover	M. Gilfillan	9	9	1.00	12	9	1.33
5	Ashtabula Co. Ashtabula	M. Gilfillan	17	11	1.55	23	11	2.09
1	Ashtabula Co. Austinburg	M. Gilfillan	13	12	1.08	--	--	--
2	Ashtabula Co. Dorset	M. Gilfillan	6	5	1.20	--	--	--
3	Ashtabula Co. Morgan	M. Gilfillan	5	6	.83	--	--	--
19	Delaware Co. Delaware Dam #1	R.Martinson**	9	9	1.00	8	10	.80

* new route run in 1961

** 1961 observer; see last year's report for 1960 observer

Table 4.--Comparison of 1960 and 1961 Woodcock Singing Ground Counts
West of the Appalachians (Continued)

Rt. no.	County and locality	Observer	1960			1961		
			Total birds	Total stops	Mean birds per stop	Total birds	Total stops	Mean birds per stop
<u>OHIO</u> (continued)								
25	Delaware Co. Delaware Dam #2	R.Martinson	--	--	--	9	9	1.00*
17	Erie Co. Resthaven	D. Haney	19	11	1.72	14	14	1.00
21	Erie Co. Margaretta #1	D. Haney TWSP	21	11	1.91	15	13	1.15
22	Erie Co. Margaretta #2	D. Haney	12	12	1.00	16	13	1.23
9	Fulton & Lucas Maumee Forest	E. Bosak	--	--	--	7	12	.58*
6	Portage Co. Ferguson Rd.	R. Dexter & J. Lowrey	2	9	.22	2	6	.33
26	Vinton Co. Zaleski #278	R. Schuerman	--	--	--	2	8	.25*
Total			89	72	1.24	90	76	1.18
<u>ONTARIO</u>								
4	Carleton Co. Carp #1	V. Solman	3	6	.50	5	5	1.00
5	Carleton Co. Carp #2	V. Solman	4	5	.80	4	6	.67
13	Carleton Co. Carp #3	V. Solman	4	12	.33	2	13	.15
12	Carleton Co. Stittsville	F. Schultz	7	10	.70	11	12	.92
9	Frontenac Co. Holleford	Mrs. H. Quilliam	0	7	.00	5	7	.71
10	Frontenac Co. Perth Rd.	A. Bell**	1	5	.20	3	6	.50
14	Frontenac Co. Sharpton	A. Bell	--	--	--	5	10	.50*
7	Frontenac Co. Westbrook	W. Lamb**	9	8	1.12	7	9	.78
3	Russell Co. Vars	F. Schultz	10	8	1.25	6	8	.75
Total			38	61	.62	43	66	.65

* new route run in 1961

** 1961 observer; see last year's report for 1960 observer

Table 4.--Comparison of 1960 and 1961 Woodcock Singing Ground Counts
West of the Appalachians (Continued)

Rt. no.	County and locality	Observer	1960			1961		
			Total birds	Total stops	Mean birds per stop	Total birds	Total stops	Mean birds per stop
<u>WEST VIRGINIA</u>								
14	Barbour Co. Pleasant Creek	W. Lesser	--	--	--	1	7	.14*
2	Grant Co. Bayard to Henry	T. Sanford	2	13	.15	2	13	.15
17	Mason Co. McClintic W.Sta.	J. Donnelly & W. Lesser	--	--	--	9	13	.69*
8	Nicholas Co. Rts. 19 & 41	R. Hill	4	8	.50	--	--	--
3	Pocahontas Co. Thorny Creek Rd.	R. Bailey	3	6	.50	3	6	.50
9	Preston Co. Cranesville Swamp	W. Lesser	0	5	.00	0	5	.00
13	Preston Co. Decker's Creek	W. Lesser	--	--	--	4	4	1.00*
10	Preston Co. Lake O'Woods	R. Bailey	2	6	.33	1	6	.17
1	Randolph Co. Kumbrabow Forest	J. Chadwick	8	7	1.14	11	7	1.57
15	Randolph Co. Mill Creek	D. Patrick	--	--	--	7	16	.44*
16	Tucker Co. Ben Thompson Farm	D. Patrick	--	--	--	7	7	1.00*
7	Tucker Co. State Route 32	W. Dean	16	12	1.33	--	--	--
Total			15	37	.41	17	37	.46

WISCONSIN

8	Adams Co. Leola	F. Hamerstrom, Jr.	--	--	--	8	8	1.00*
9	Clark Co. Hewitt	L. Reynoldson	--	--	--	1	9	.11*
10	Forest Co. Argonne	H. Duncan	--	--	--	1	10	.10*
11	Juneau Co. Grand Dike	C. Pospichal	--	--	--	2	10	.20*
6	Juneau Co. Necedah	J. Clawson	0	13	.00	--	--	--
12	Juneau Co. Yellow River	C. Pospichal	--	--	--	2	9	.22*
2	Lincoln Co. Harding	E. Morrison	--	--	--	13	10	1.30

* new route run in 1961

Table 4.--Comparison of 1960 and 1961 Woodcock Singing Ground Counts
West of the Appalachians (Continued)

Rt. no.	County and locality	Observer	1960			1961		
			Total birds	Total stops	Mean birds per stop	Total birds	Total stops	Mean birds per stop
<u>WISCONSIN (continued)</u>								
13	Marathon Co. Sethos Tavern	D. Corbin	--	--	--	5	8	.62*
14	Oneida Co. Lynne	H. Duncan	--	--	--	3	10	.30*
15	Portage Co. Hull	A. Epple	--	--	--	6	6	1.00*
5	Price Co. Flambeau TWSP	C. Wiita	4	11	.36	6	11	.54
16	Rusk Co. Big Bend	L. Reynoldson	--	--	--	5	8	.62*
17	Taylor Co. Pershing	L. Reynoldson	--	--	--	3	10	.30*
18	Waupaca Co. Lind	V. Conover	--	--	--	1	9	.11*
19	Waushara Co. Dakota	V. Conover	--	--	--	2	9	.22*
20	Wood Co. Remington	G. Clawson	--	--	--	0	10	.00*
21	Wood Co. Sandhill Game Farm	D. Berger & A. Hamerstrom	--	--	--	0	0	.00*
Total			4	11	.36	6	11	.55

* new route run in 1961